



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5439-OE

Issued Date: 03/31/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine AWE 1
Location:	Hillsborough, NH
Latitude:	43-04-03.41N NAD 83
Longitude:	72-00-28.14W
Heights:	1431 feet site elevation (SE) 489 feet above ground level (AGL) 1920 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

☐ At least 10 days prior to start of construction (7460-2, Part 1)
☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 489 feet above ground level (1920 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 10/01/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before April 30, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on May 10, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5439-OE.

Signature Control No: 231063057-247681023

(DNH -WT)

Sheri Edgett-Baron

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The proposed new structure is a Wind Turbine at 489 feet Above Ground Height (AGL). The proposed structure will be located approximately 4.5 nautical miles west of the airport reference point for the Hawthorne-Feather Airpark (8B1), Hillsboro, NH. The proposed structure is identified as exceeding 14 CFR, part 77, obstruction standards as follows as applied to the 8B1 Airport:

Section 77.17(a)(2): A height AGL or airport elevation, whichever is higher, exceeding 400 feet within 5 miles; as applied to the 8B1 Airport would exceed by 137 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. In this case the structure would not be located within the lateral limits of the VFR traffic pattern airspace for this airport. Therefore, the structure would not conflict with airspace required to conduct normal VFR traffic pattern operations and/or visual approach operations at 8B1 or any other known public use or military airports.

**THIS POLICY DOES NOT AFFECT THE PUBLIC'S RIGHT TO PETITION FOR REVIEW
DETERMINATIONS REGARDING STRUCTURES, WHICH EXCEED THE SUBJECT OBSTRUCTION
STANDARDS.**

The structure would have no effect on any existing or proposed IFR enroute routes, or arrival/departure routes, operations, or procedures.

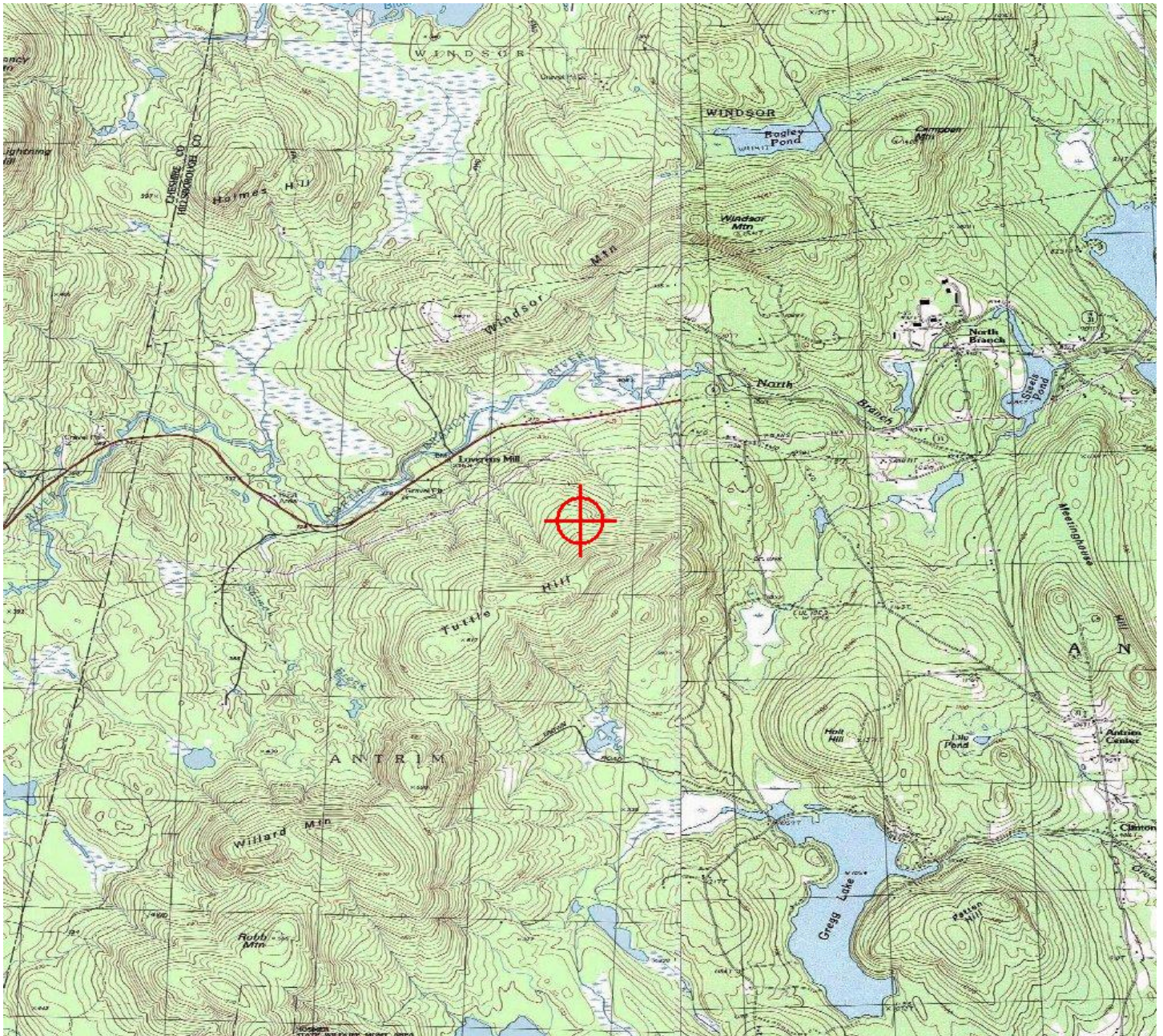
The structure would have no effect on any existing or proposed IFR minimum flight altitudes or minimum vectoring altitudes.

The structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

The structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5440-OE

Issued Date: 06/11/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** MARKING & LIGHTING CHANGE ****

The Federal Aviation Administration (FAA) has completed an evaluation of the obstruction marking and lighting for the following structure:

Structure:	Wind Turbine AWE 2
Location:	Hillsborough, NH
Latitude:	43-03-51.34N NAD 83
Longitude:	72-00-22.29W
Heights:	1743 feet site elevation (SE) 489 feet above ground level (AGL) 2232 feet above mean sea level (AMSL)

Based on this evaluation, the FAA has determined that a change to the obstruction marking/lighting for this structure is necessary for aviation safety. The structure would not be a hazard to air navigation provided it is obstruction marked/lighted in accordance with FAA Advisory Circular 70/7460-1, K Change 2, Obstruction Marking and Lighting, white paint only - Chapters 12&13(Turbines). This condition supersedes the obstruction marking/lighting condition in the Determination of No Hazard to Air Navigation issued on 05/04/2015.

So that aeronautical charts and records can be updated, it is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed when the new system is installed and operational.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-

contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

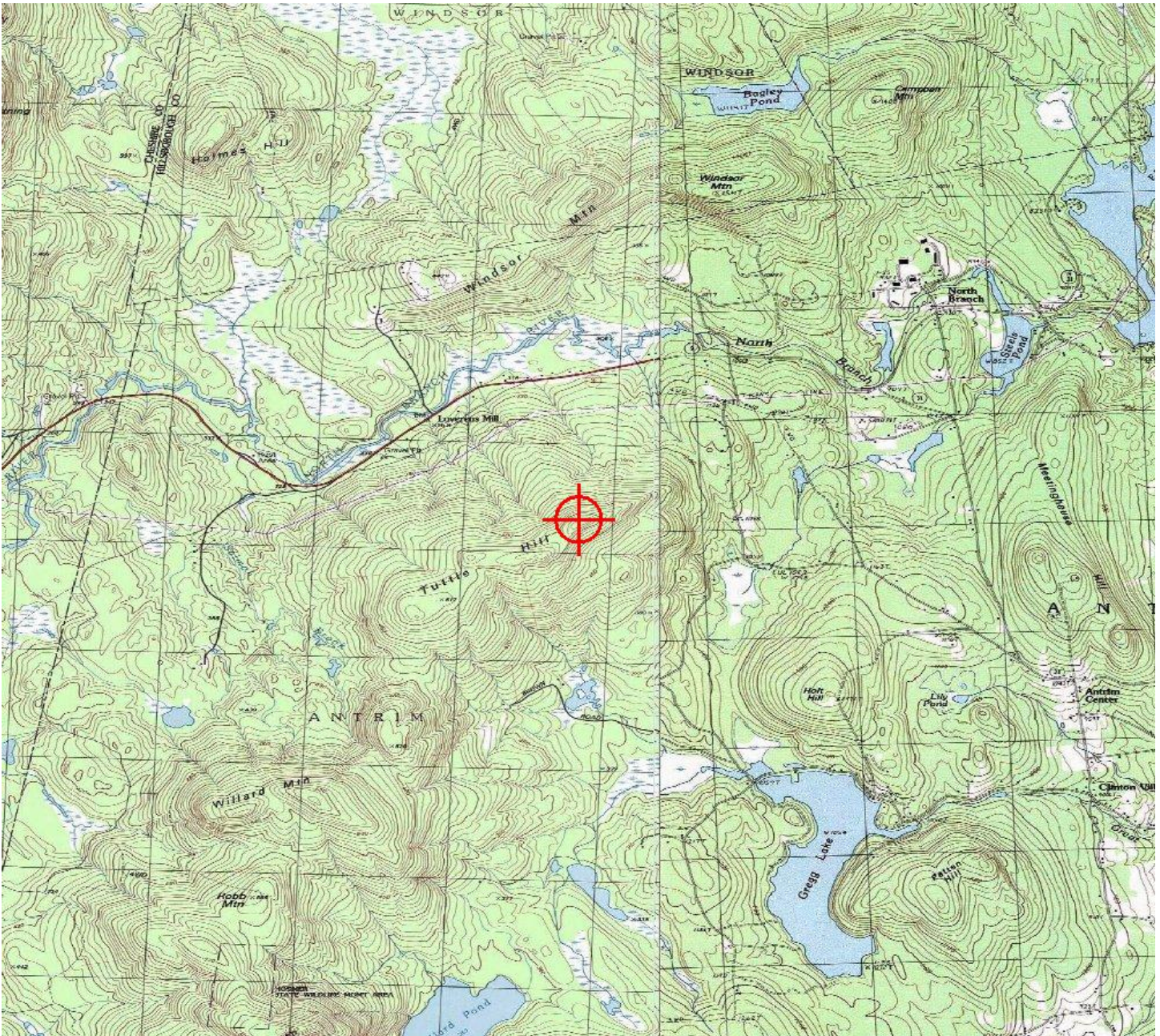
If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5440-OE.

Signature Control No: 231063058-254923363

(MLCHG -WT)

Cindy Whitten
Specialist

Attachment(s)
Map(s)





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5440-OE

Issued Date: 05/04/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine AWE 2
Location:	Hillsborough, NH
Latitude:	43-03-51.34N NAD 83
Longitude:	72-00-22.29W
Heights:	1743 feet site elevation (SE) 489 feet above ground level (AGL) 2232 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☒ At least 60 days prior to start of construction (7460-2, Part 1)
- ☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 489 feet above ground level (2232 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 11/04/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 03, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on June 13, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5440-OE.

Signature Control No: 231063058-251023069

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The proposed new structure is a Wind Turbine at 489 feet Above Ground Height (AGL). The proposed structure will be located approximately 4.4 nautical miles west of the airport reference point for the Hawthorne-Feather Airpark (8B1), Hillsboro, NH. The proposed structure is identified as exceeding 14 CFR, part 77, obstruction standards as follows as applied to the 8B1 Airport:

Section 77.17(a)(2): A height AGL or airport elevation, whichever is higher, exceeding 400 feet within 5 miles; as applied to the 8B1 Airport would exceed by 146 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. In this case the structure would not be located within the lateral limits of the VFR traffic pattern airspace for this airport. Therefore, the structure would not conflict with airspace required to conduct normal VFR traffic pattern operations and/or visual approach operations at 8B1 or any other known public use or military airports.

**THIS POLICY DOES NOT AFFECT THE PUBLIC'S RIGHT TO PETITION FOR REVIEW
DETERMINATIONS REGARDING STRUCTURES, WHICH EXCEED THE SUBJECT OBSTRUCTION
STANDARDS.**

The structure would have no effect on any existing or proposed IFR enroute routes, or arrival/departure routes, operations, or procedures.

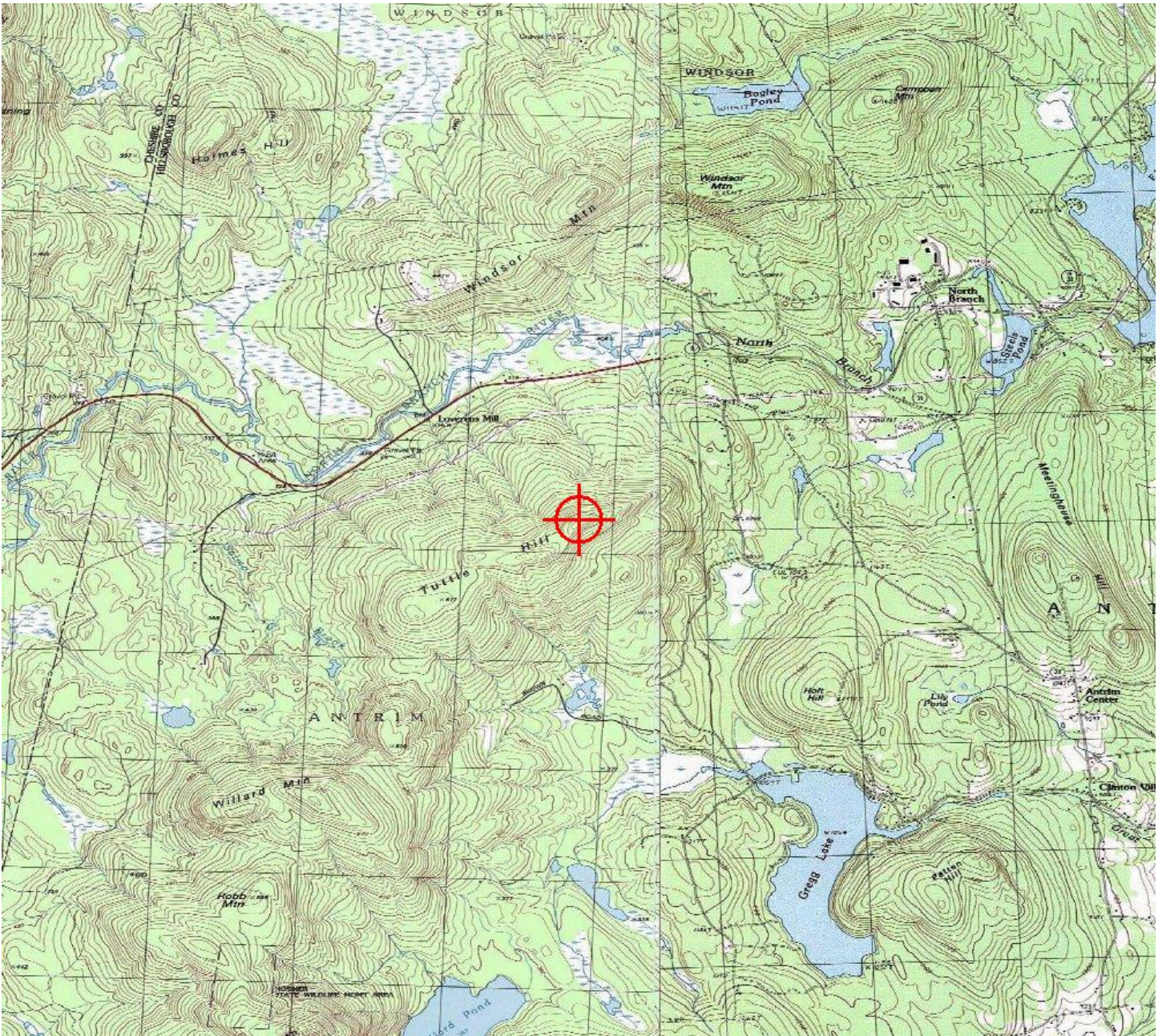
The structure would have no effect on any existing or proposed IFR minimum flight altitudes. Minimum Vectoring Altitudes will be affected, but coordination and approval with Boston TRACON has been accomplished.

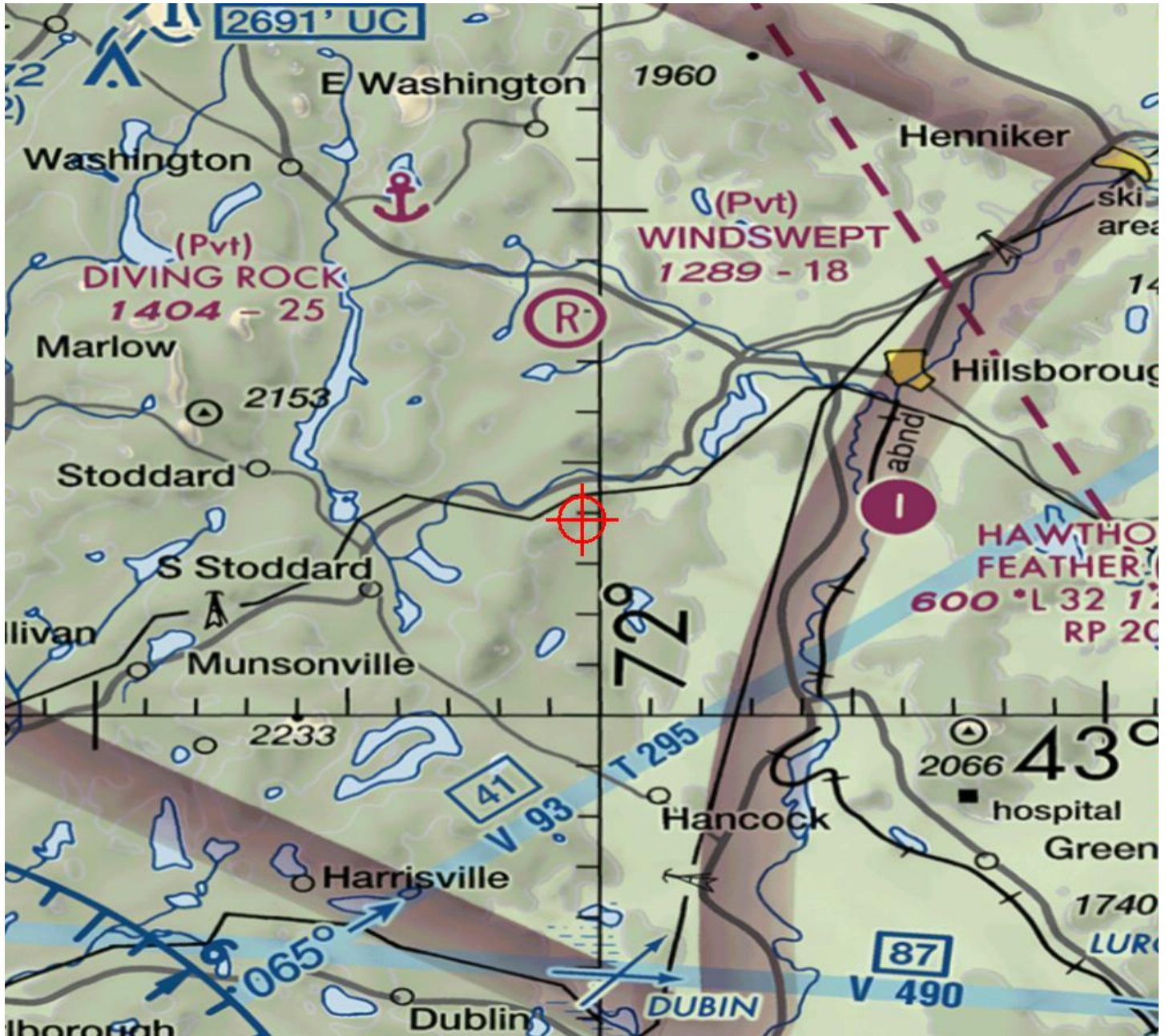
The structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

The structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.







Mail Processing Center
Federal Aviation Administration
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Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5441-OE

Issued Date: 05/04/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine AWE 3
Location:	Hillsborough, NH
Latitude:	43-03-41.26N NAD 83
Longitude:	72-00-32.62W
Heights:	1758 feet site elevation (SE) 489 feet above ground level (AGL) 2247 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☒ At least 60 days prior to start of construction (7460-2, Part 1)
☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 489 feet above ground level (2247 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 11/04/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 03, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on June 13, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5441-OE.

Signature Control No: 231063059-251023360

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The proposed new structure is a Wind Turbine at 489 feet Above Ground Height (AGL). The proposed structure will be located approximately 4.5 nautical miles west of the airport reference point for the Hawthorne-Feather Airpark (8B1), Hillsboro, NH. The proposed structure is identified as exceeding 14 CFR, part 77, obstruction standards as follows as applied to the 8B1 Airport:

Section 77.17(a)(2): A height AGL or airport elevation, whichever is higher, exceeding 400 feet within 5 miles; as applied to the 8B1 Airport would exceed by 133 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. In this case the structure would not be located within the lateral limits of the VFR traffic pattern airspace for this airport. Therefore, the structure would not conflict with airspace required to conduct normal VFR traffic pattern operations and/or visual approach operations at 8B1 or any other known public use or military airports.

**THIS POLICY DOES NOT AFFECT THE PUBLIC'S RIGHT TO PETITION FOR REVIEW
DETERMINATIONS REGARDING STRUCTURES, WHICH EXCEED THE SUBJECT OBSTRUCTION
STANDARDS.**

The structure would have no effect on any existing or proposed IFR enroute routes, or arrival/departure routes, operations, or procedures.

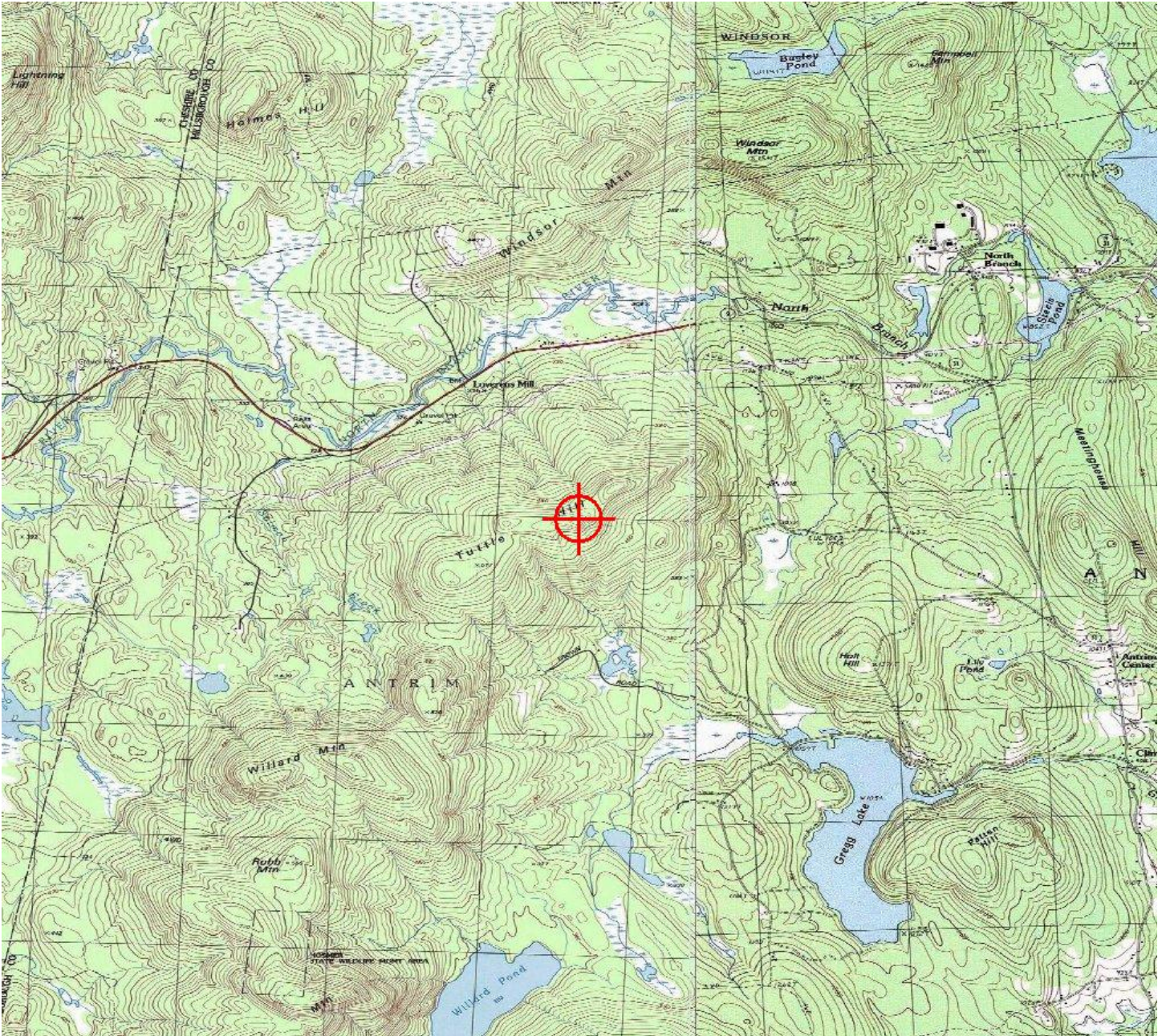
The structure would have no effect on any existing or proposed IFR minimum flight altitudes. Minimum Vectoring Altitudes will be affected, but coordination and approval with Boston TRACON has been accomplished.

The structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

The structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5442-OE

Issued Date: 05/04/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine AWE 4
Location:	Hillsborough, NH
Latitude:	43-03-31.43N NAD 83
Longitude:	72-00-59.25W
Heights:	1682 feet site elevation (SE) 489 feet above ground level (AGL) 2171 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☒ At least 60 days prior to start of construction (7460-2, Part 1)
- ☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 489 feet above ground level (2171 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 11/04/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 03, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on June 13, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5442-OE.

Signature Control No: 231063060-251023653

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The proposed new structure is a Wind Turbine at 489 feet Above Ground Height (AGL). The proposed structure will be located approximately 4.8 nautical miles west of the airport reference point for the Hawthorne-Feather Airpark (8B1), Hillsboro, NH. The proposed structure is identified as exceeding 14 CFR, part 77, obstruction standards as follows as applied to the 8B1 Airport:

Section 77.17(a)(2): A height AGL or airport elevation, whichever is higher, exceeding 400 feet within 5 miles; as applied to the 8B1 Airport would exceed by 101 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. In this case the structure would not be located within the lateral limits of the VFR traffic pattern airspace for this airport. Therefore, the structure would not conflict with airspace required to conduct normal VFR traffic pattern operations and/or visual approach operations at 8B1 or any other known public use or military airports.

**THIS POLICY DOES NOT AFFECT THE PUBLIC'S RIGHT TO PETITION FOR REVIEW
DETERMINATIONS REGARDING STRUCTURES, WHICH EXCEED THE SUBJECT OBSTRUCTION
STANDARDS.**

The structure would have no effect on any existing or proposed IFR enroute routes, or arrival/departure routes, operations, or procedures.

The structure would have no effect on any existing or proposed IFR minimum flight altitudes. Minimum Vectoring Altitudes will be affected, but coordination and approval with Boston TRACON has been accomplished.

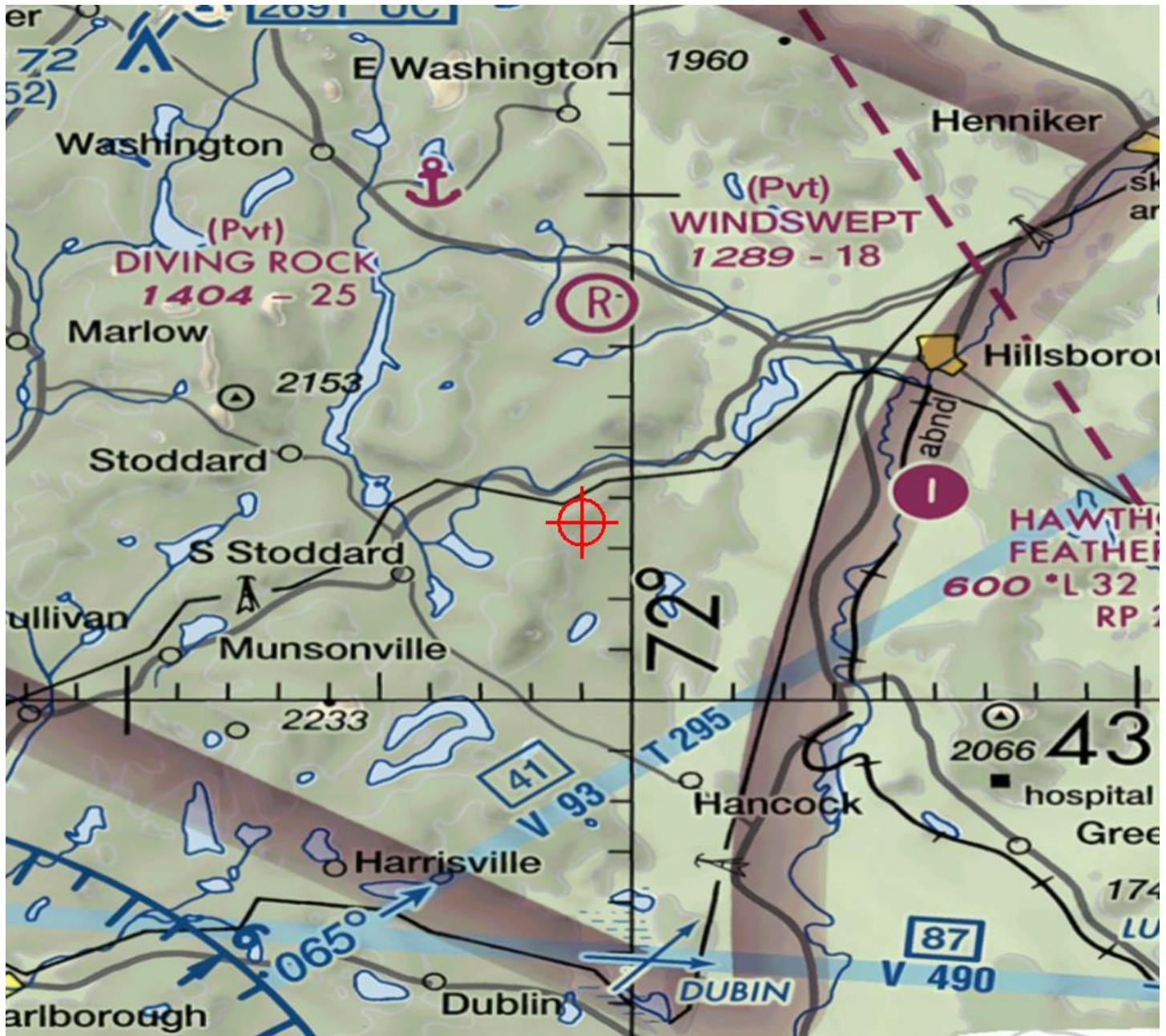
The structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

The structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.







Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5443-OE

Issued Date: 05/04/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine AWE 5
Location:	Hillsborough, NH
Latitude:	43-03-23.84N NAD 83
Longitude:	72-01-10.20W
Heights:	1726 feet site elevation (SE) 489 feet above ground level (AGL) 2215 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☒ At least 60 days prior to start of construction (7460-2, Part 1)
- ☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 489 feet above ground level (2215 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 11/04/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 03, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on June 13, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5443-OE.

Signature Control No: 231063061-251023963

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The proposed new structure is a Wind Turbine at 489 feet Above Ground Height (AGL). The proposed structure will be located approximately 5.0 nautical miles west of the airport reference point for the Hawthorne-Feather Airpark (8B1), Hillsboro, NH. The proposed structure is identified as exceeding 14 CFR, part 77, obstruction standards as follows as applied to the 8B1 Airport:

Section 77.17(a)(2): A height AGL or airport elevation, whichever is higher, exceeding 400 feet within 5 miles; as applied to the 8B1 Airport would exceed by 87 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. In this case the structure would not be located within the lateral limits of the VFR traffic pattern airspace for this airport. Therefore, the structure would not conflict with airspace required to conduct normal VFR traffic pattern operations and/or visual approach operations at 8B1 or any other known public use or military airports.

**THIS POLICY DOES NOT AFFECT THE PUBLIC'S RIGHT TO PETITION FOR REVIEW
DETERMINATIONS REGARDING STRUCTURES, WHICH EXCEED THE SUBJECT OBSTRUCTION
STANDARDS.**

The structure would have no effect on any existing or proposed IFR enroute routes, or arrival/departure routes, operations, or procedures.

The structure would have no effect on any existing or proposed IFR minimum flight altitudes. Minimum Vectoring Altitudes will be affected, but coordination and approval with Boston TRACON has been accomplished.

The structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

The structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5443-OE

Issued Date: 06/11/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** MARKING & LIGHTING CHANGE ****

The Federal Aviation Administration (FAA) has completed an evaluation of the obstruction marking and lighting for the following structure:

Structure:	Wind Turbine AWE 5
Location:	Hillsborough, NH
Latitude:	43-03-23.84N NAD 83
Longitude:	72-01-10.20W
Heights:	1726 feet site elevation (SE) 489 feet above ground level (AGL) 2215 feet above mean sea level (AMSL)

Based on this evaluation, the FAA has determined that a change to the obstruction marking/lighting for this structure is necessary for aviation safety. The structure would not be a hazard to air navigation provided it is obstruction marked/lighted in accordance with FAA Advisory Circular 70/7460-1, K Change 2, Obstruction Marking and Lighting, white paint only - Chapters 12&13(Turbines). This condition supersedes the obstruction marking/lighting condition in the Determination of No Hazard to Air Navigation issued on 05/04/2015.

So that aeronautical charts and records can be updated, it is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed when the new system is installed and operational.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-

contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

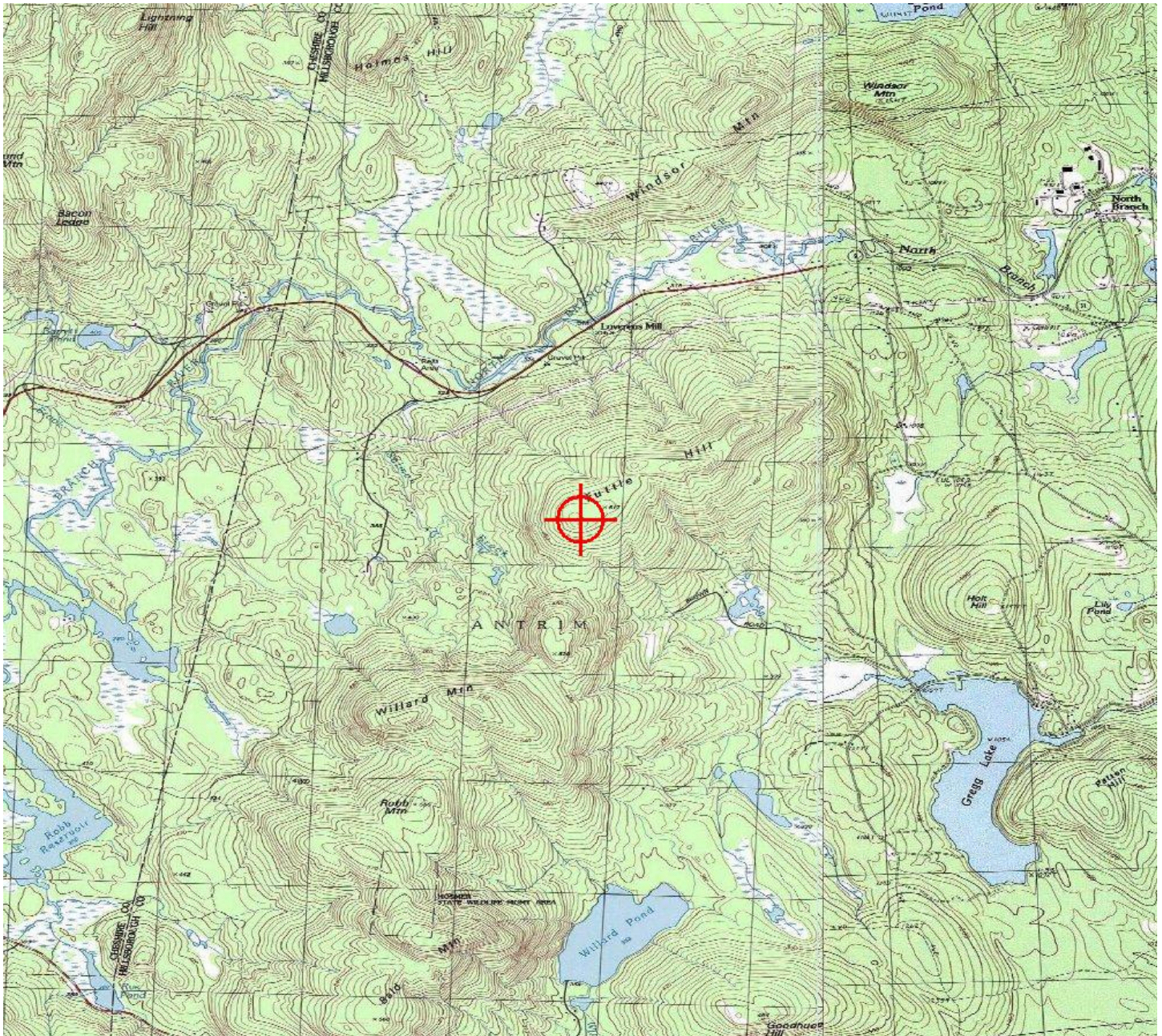
If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5443-OE.

Signature Control No: 231063061-254923362

(MLCHG -WT)

Cindy Whitten
Specialist

Attachment(s)
Map(s)





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5444-OE

Issued Date: 03/31/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine AWE 6
Location:	Hillsborough, NH
Latitude:	43-03-09.66N NAD 83
Longitude:	72-01-11.94W
Heights:	1504 feet site elevation (SE) 489 feet above ground level (AGL) 1993 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

☐ At least 10 days prior to start of construction (7460-2, Part 1)
☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 489 feet above ground level (1993 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 10/01/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before April 30, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on May 10, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5444-OE.

Signature Control No: 231063062-247682326

(DNH -WT)

Sheri Edgett-Baron

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The proposed new structure is a Wind Turbine at 489 feet Above Ground Height (AGL). The proposed structure will be located approximately 5.0 nautical miles west of the airport reference point for the Hawthorne-Feather Airpark (8B1), Hillsboro, NH. The proposed structure is identified as exceeding 14 CFR, part 77, obstruction standards as follows as applied to the 8B1 Airport:

Section 77.17(a)(2): A height AGL or airport elevation, whichever is higher, exceeding 400 feet within 5 miles; as applied to the 8B1 Airport would exceed by 83 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. In this case the structure would not be located within the lateral limits of the VFR traffic pattern airspace for this airport. Therefore, the structure would not conflict with airspace required to conduct normal VFR traffic pattern operations and/or visual approach operations at 8B1 or any other known public use or military airports.

**THIS POLICY DOES NOT AFFECT THE PUBLIC'S RIGHT TO PETITION FOR REVIEW
DETERMINATIONS REGARDING STRUCTURES, WHICH EXCEED THE SUBJECT OBSTRUCTION
STANDARDS.**

The structure would have no effect on any existing or proposed IFR enroute routes, or arrival/departure routes, operations, or procedures.

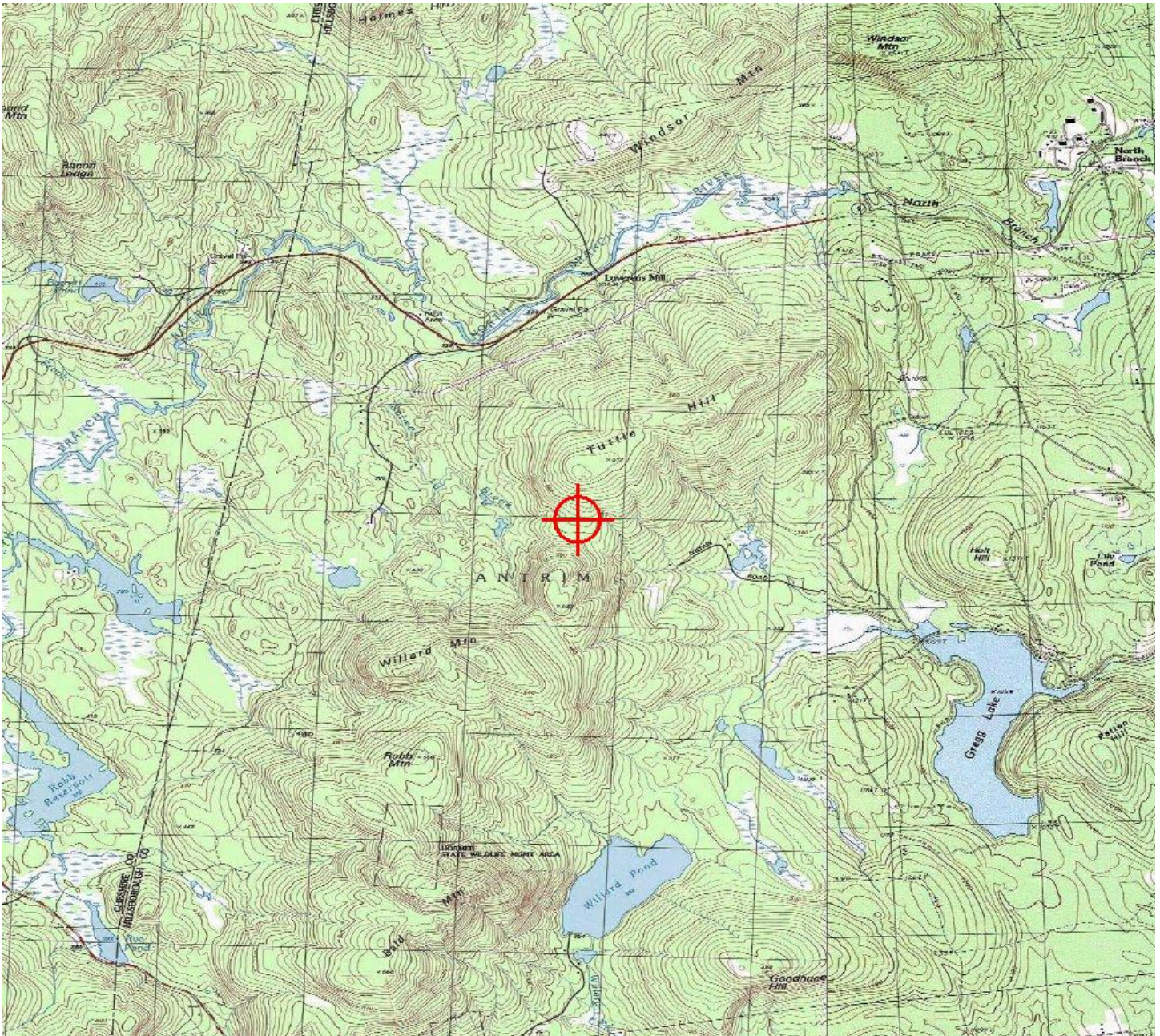
The structure would have no effect on any existing or proposed IFR minimum flight altitudes or minimum vectoring altitudes.

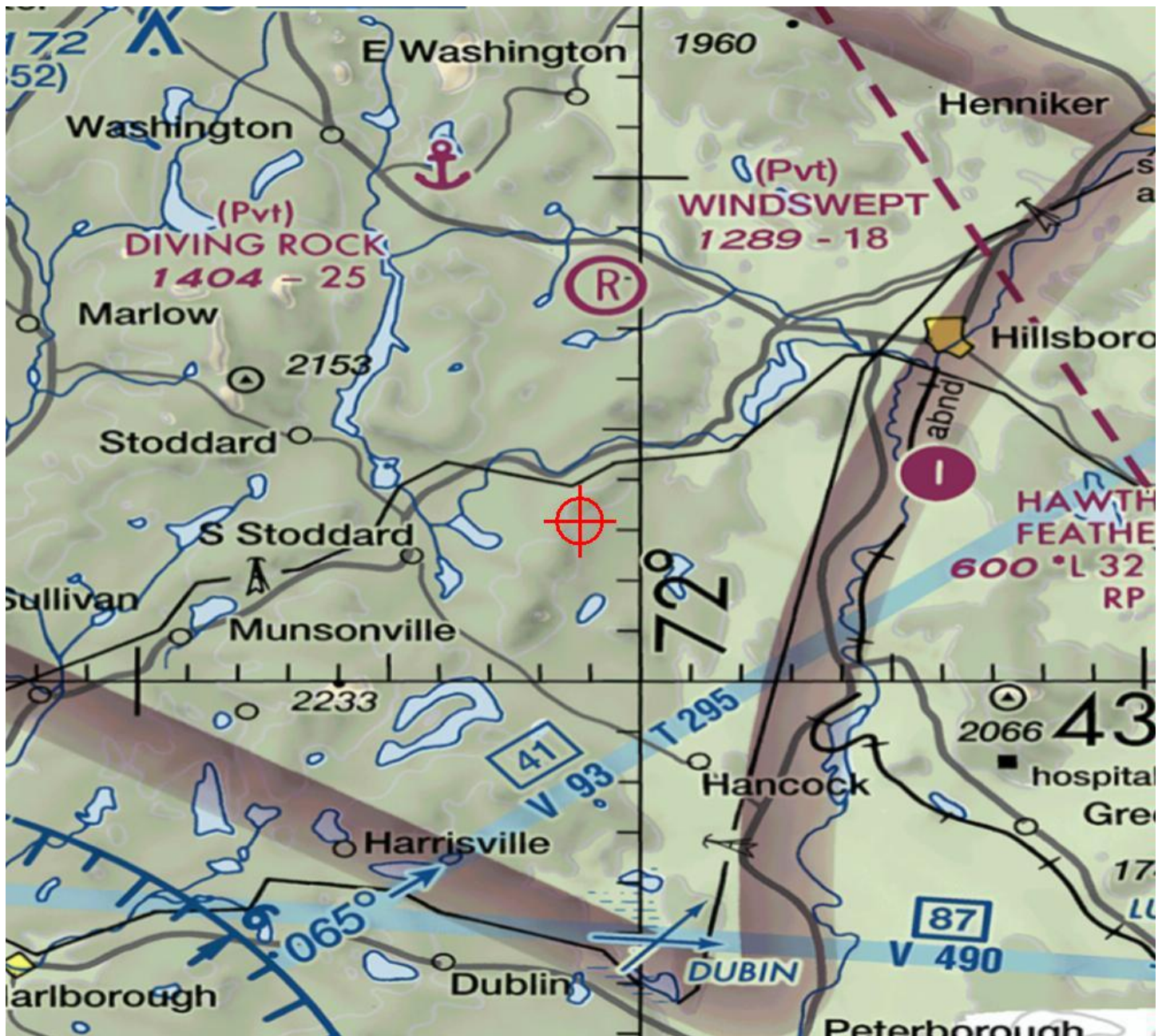
The structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

The structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.







Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5445-OE

Issued Date: 05/04/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine AWE 7
Location:	Hillsborough, NH
Latitude:	43-02-54.23N NAD 83
Longitude:	72-01-17.79W
Heights:	1676 feet site elevation (SE) 489 feet above ground level (AGL) 2165 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☒ At least 60 days prior to start of construction (7460-2, Part 1)
- ☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 489 feet above ground level (2165 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 11/04/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 03, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on June 13, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5445-OE.

Signature Control No: 231063063-251024142

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The proposed new structure is a Wind Turbine at 489 feet Above Ground Height (AGL). The proposed structure will be located approximately 5.1 nautical miles west of the airport reference point for the Hawthorne-Feather Airpark (8B1), Hillsboro, NH. The proposed structure is identified as exceeding 14 CFR, part 77, obstruction standards as follows as applied to the 8B1 Airport:

Section 77.17(a)(2): A height AGL or airport elevation, whichever is higher, exceeding 400 feet within 5 miles; as applied to the 8B1 Airport would exceed by 72 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. In this case the structure would not be located within the lateral limits of the VFR traffic pattern airspace for this airport. Therefore, the structure would not conflict with airspace required to conduct normal VFR traffic pattern operations and/or visual approach operations at 8B1 or any other known public use or military airports.

**THIS POLICY DOES NOT AFFECT THE PUBLIC'S RIGHT TO PETITION FOR REVIEW
DETERMINATIONS REGARDING STRUCTURES, WHICH EXCEED THE SUBJECT OBSTRUCTION
STANDARDS.**

The structure would have no effect on any existing or proposed IFR enroute routes, or arrival/departure routes, operations, or procedures.

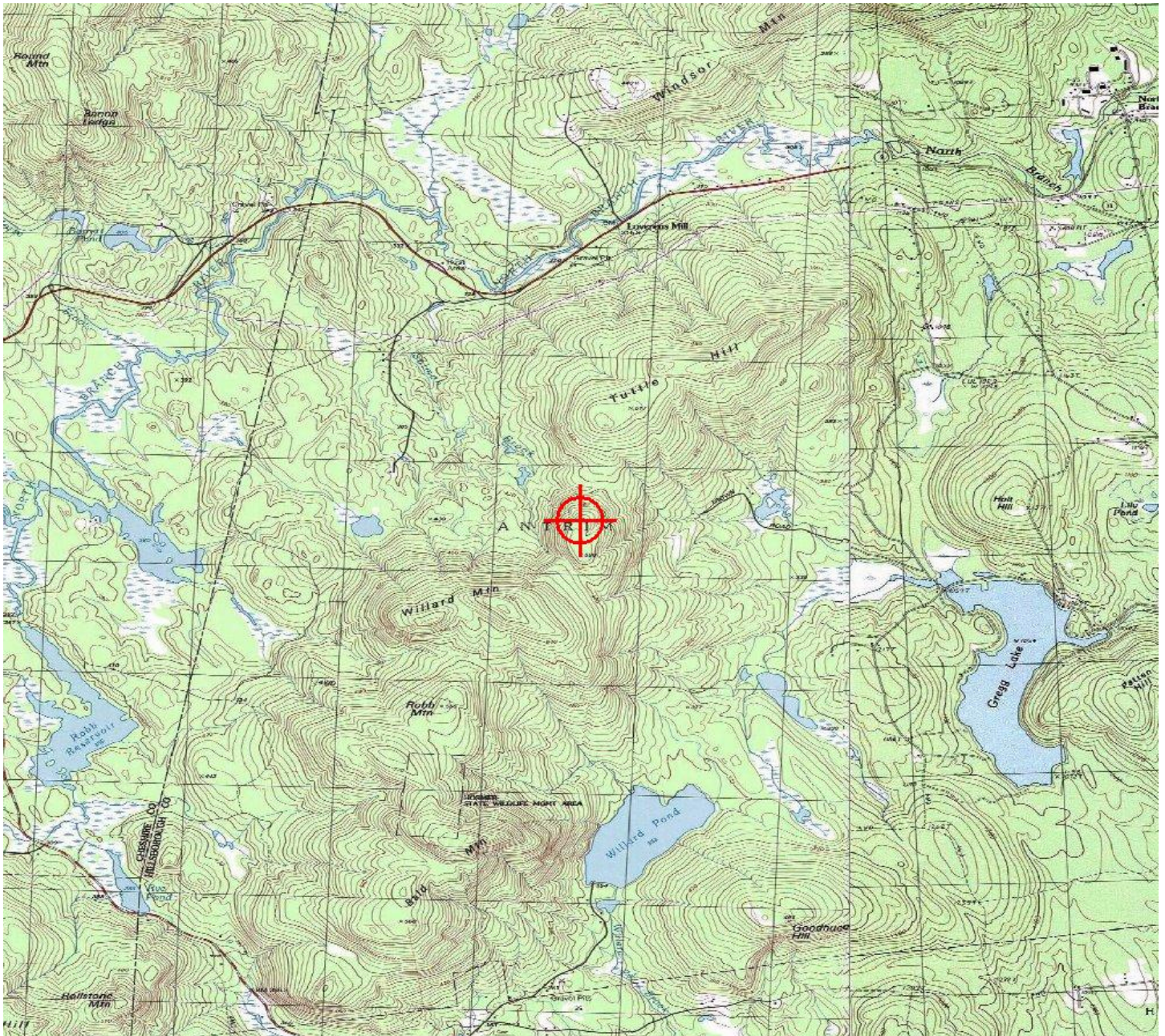
The structure would have no effect on any existing or proposed IFR minimum flight altitudes. Minimum Vectoring Altitudes will be affected, but coordination and approval with Boston TRACON has been accomplished.

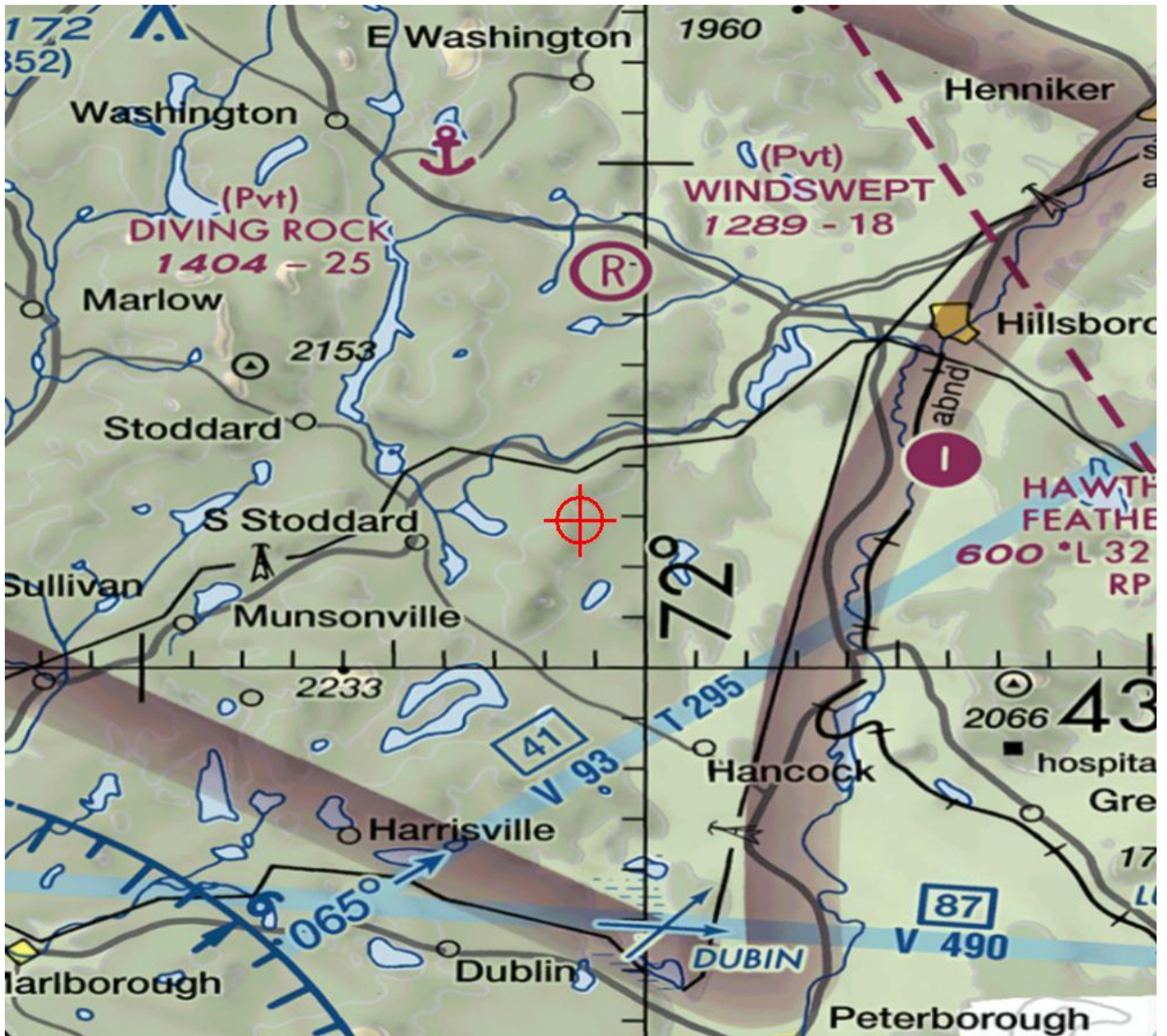
The structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

The structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.







Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5446-OE

Issued Date: 05/04/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine AWE 8
Location:	Hillsborough, NH
Latitude:	43-02-43.77N NAD 83
Longitude:	72-01-16.79W
Heights:	1700 feet site elevation (SE) 489 feet above ground level (AGL) 2189 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☒ At least 60 days prior to start of construction (7460-2, Part 1)
☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 489 feet above ground level (2189 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 11/04/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 03, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on June 13, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5446-OE.

Signature Control No: 231063064-251024501

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The proposed new structure is a Wind Turbine at 489 feet Above Ground Height (AGL). The proposed structure will be located approximately 5.1 nautical miles west of the airport reference point for the Hawthorne-Feather Airpark (8B1), Hillsboro, NH. The proposed structure is identified as exceeding 14 CFR, part 77, obstruction standards as follows as applied to the 8B1 Airport:

Section 77.17(a)(2): A height AGL or airport elevation, whichever is higher, exceeding 400 feet within 5 miles; as applied to the 8B1 Airport would exceed by 71 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. In this case the structure would not be located within the lateral limits of the VFR traffic pattern airspace for this airport. Therefore, the structure would not conflict with airspace required to conduct normal VFR traffic pattern operations and/or visual approach operations at 8B1 or any other known public use or military airports.

**THIS POLICY DOES NOT AFFECT THE PUBLIC'S RIGHT TO PETITION FOR REVIEW
DETERMINATIONS REGARDING STRUCTURES, WHICH EXCEED THE SUBJECT OBSTRUCTION
STANDARDS.**

The structure would have no effect on any existing or proposed IFR enroute routes, or arrival/departure routes, operations, or procedures.

The structure would have no effect on any existing or proposed IFR minimum flight altitudes. Minimum Vectoring Altitudes will be affected, but coordination and approval with Boston TRACON has been accomplished.

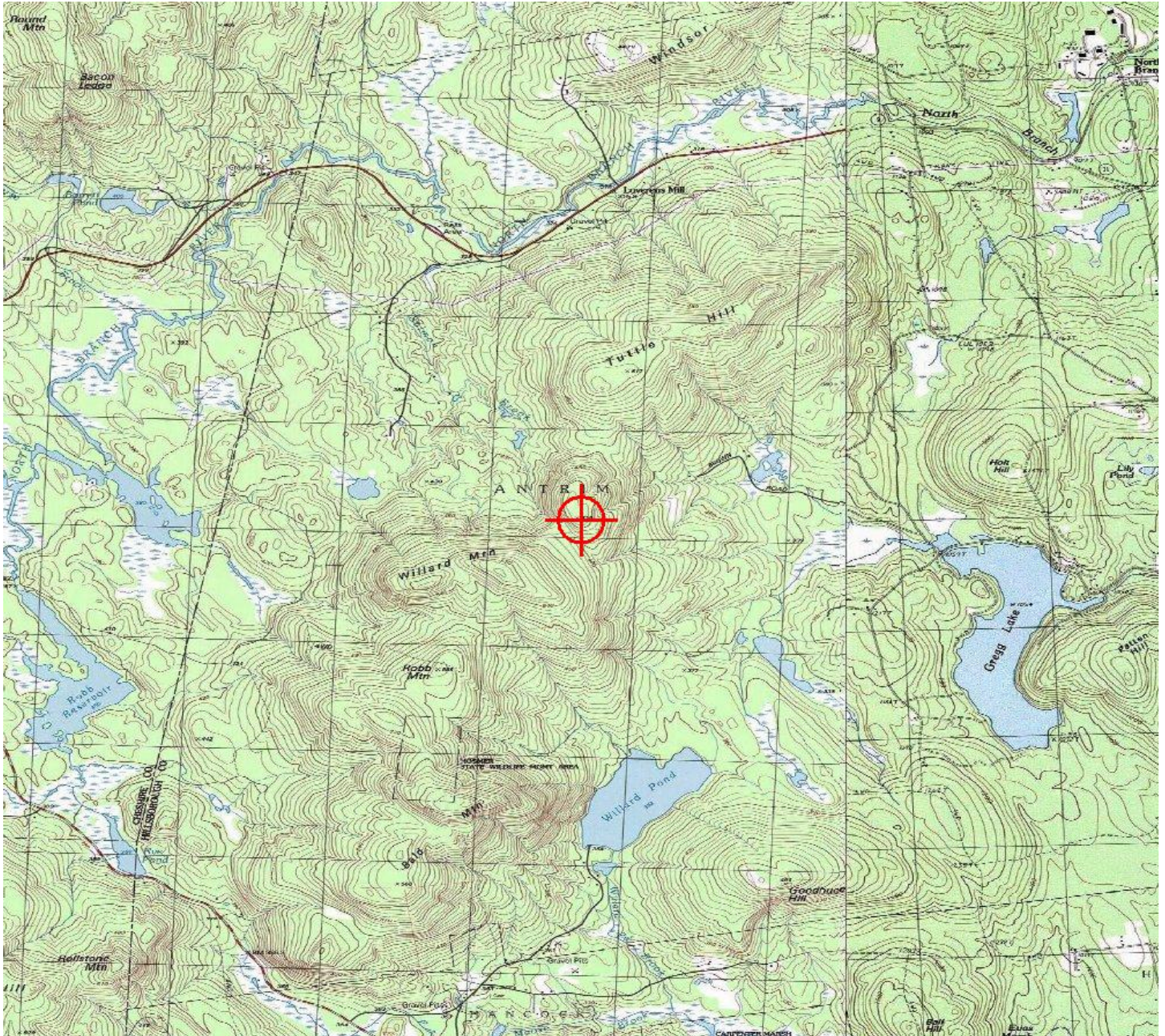
The structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

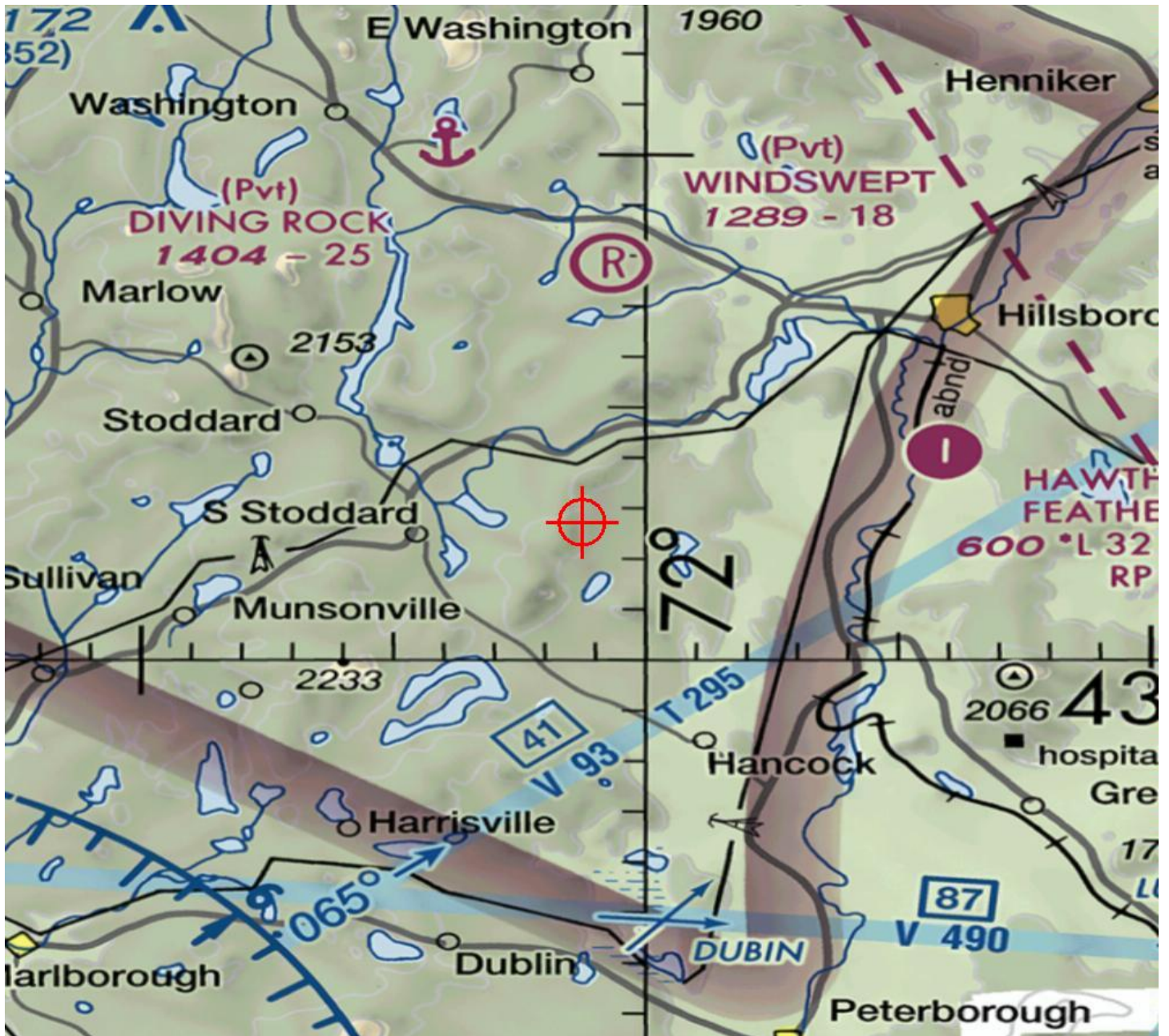
The structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

TOPO Map for ASN 2014-WTE-5446-OE







Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5446-OE

Issued Date: 06/11/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** MARKING & LIGHTING CHANGE ****

The Federal Aviation Administration (FAA) has completed an evaluation of the obstruction marking and lighting for the following structure:

Structure:	Wind Turbine AWE 8
Location:	Hillsborough, NH
Latitude:	43-02-43.77N NAD 83
Longitude:	72-01-16.79W
Heights:	1700 feet site elevation (SE) 489 feet above ground level (AGL) 2189 feet above mean sea level (AMSL)

Based on this evaluation, the FAA has determined that a change to the obstruction marking/lighting for this structure is necessary for aviation safety. The structure would not be a hazard to air navigation provided it is obstruction marked/lighted in accordance with FAA Advisory Circular 70/7460-1, K Change 2, Obstruction Marking and Lighting, white paint only - Chapters 12&13(Turbines). This condition supersedes the obstruction marking/lighting condition in the Determination of No Hazard to Air Navigation issued on 05/04/2015.

So that aeronautical charts and records can be updated, it is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed when the new system is installed and operational.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-

contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5446-OE.

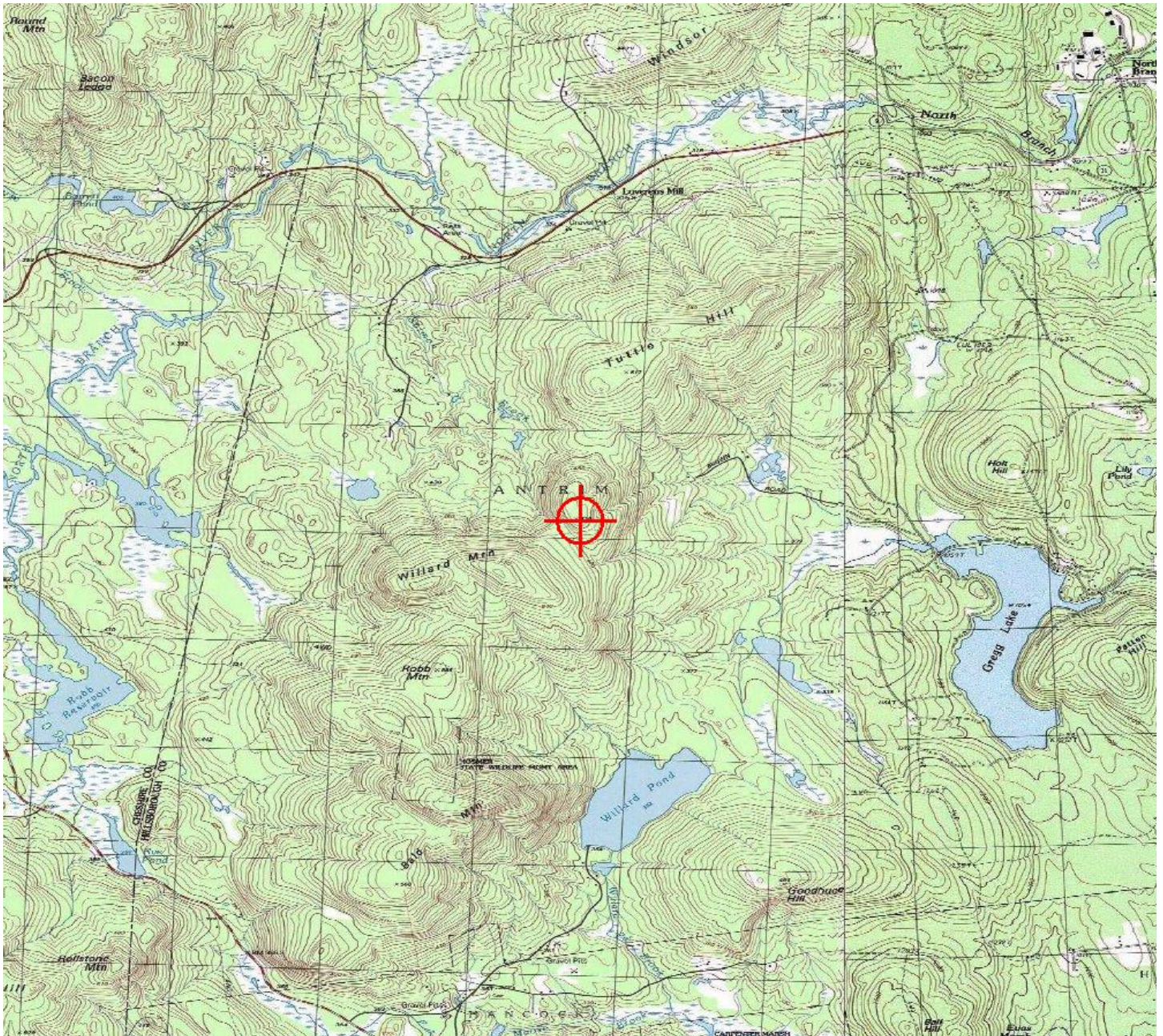
Signature Control No: 231063064-254923364

(MLCHG -WT)

Cindy Whitten
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2014-WTE-5446-OE





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-WTE-5447-OE

Issued Date: 05/04/2015

Drew Kenworthy
Antrim Wind Energy, LLC
155 Fleet Street
Portsmouth, NH 03801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine AWE 9
Location:	Hillsborough, NH
Latitude:	43-02-35.31N NAD 83
Longitude:	72-01-26.37W
Heights:	1667 feet site elevation (SE) 447 feet above ground level (AGL) 2114 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☒ At least 60 days prior to start of construction (7460-2, Part 1)
- ☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 447 feet above ground level (2114 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 11/04/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 03, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on June 13, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-5447-OE.

Signature Control No: 231063065-251024717

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The proposed new structure is a Wind Turbine at 489 feet Above Ground Height (AGL). The proposed structure will be located approximately 5.3 nautical miles west of the airport reference point for the Hawthorne-Feather Airpark (8B1), Hillsboro, NH. The proposed structure is identified as exceeding 14 CFR, part 77, obstruction standards as follows as applied to the 8B1 Airport:

Section 77.17(a)(2): A height AGL or airport elevation, whichever is higher, exceeding 400 feet within 5 miles; as applied to the 8B1 Airport would exceed by 14 feet.

The proposal was not circularized for public comment because current FAA obstruction evaluation policy exempts from circularization those proposals which exceed the above cited obstruction standard. This is provided the proposal does not lie within an airport traffic pattern. In this case the structure would not be located within the lateral limits of the VFR traffic pattern airspace for this airport. Therefore, the structure would not conflict with airspace required to conduct normal VFR traffic pattern operations and/or visual approach operations at 8B1 or any other known public use or military airports.

**THIS POLICY DOES NOT AFFECT THE PUBLIC'S RIGHT TO PETITION FOR REVIEW
DETERMINATIONS REGARDING STRUCTURES, WHICH EXCEED THE SUBJECT OBSTRUCTION
STANDARDS.**

The structure would have no effect on any existing or proposed IFR enroute routes, or arrival/departure routes, operations, or procedures.

The structure would have no effect on any existing or proposed IFR minimum flight altitudes. Minimum Vectoring Altitudes will be affected, but coordination and approval with Boston TRACON has been accomplished.

The structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight.

The structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen flying in VFR weather conditions at night.

The cumulative impact of the structure, when combined with other existing structures is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

